CLAIMS

1. Positioning device for the exact positioning of a first optical component relative to a second optical component, the positioning device comprising a first fixing element and at least one second fixing element guided relative to one another by a guide means such that they are movable towards one another essentially only in a clamping direction the positioning device having at least one support element arranged between them, the position of said support element relative to the fixing elements being adjustable in at least one direction transversely to the clamping direction and being adapted to be fixed between the fixing elements as a result of clamping and the optical components being held on different ones of the elements adjustable relative to one another.

2. Positioning device as defined in claim 1, wherein the fixing elements are guided relative to one another by several guide means.

3. Positioning device as defined in claim 1, wherein one of the guide means blocks at least any translational movement transversely to the clamping direction.

4. Positioning device as defined in claim 1, wherein one of the guide means blocks any rotational movement about an axis of rotation parallel to the clamping direction.

5. Positioning device as defined in claim 1, wherein a guide means is formed by an alignment pin and an alignment pin receiving means, wherein the alignment pin is arranged on one fixing element and the alignment pin receiving means on the other fixing element.

6. Positioning device as defined in claim 5, wherein in the case of several guide means one guide means is designed as an alignment pin and alignment pin receiving means and the other guide means has a degree of freedom in a radial direction in relation to the one guide means and forms an exact guide means only in a transverse direction in relation to the radial direction.

7. Positioning device as defined in claim 1, wherein the support element is adapted to be fixed in a force-locking manner between the fixing elements.

8. Positioning device as defined in claim 1, wherein the fixing elements are adapted to be acted upon in a clamping direction by at least one clamping device.

9. Positioning device as defined in claim 8, wherein the clamping device comprises a tightening screw.

10. Positioning device as defined in claim 8, wherein several clamping devices are provided.

11. Positioning device as defined in claim 10, wherein the several clamping devices are arranged in a type of multiple symmetry in relation to an axis of symmetry.

12. Positioning device as defined in claim 11, wherein the axis of symmetry extends approximately parallel to the clamping direction.

13. Positioning device as defined in claim 11, wherein the axis of symmetry extends through the optical components positionable relative to one another.

14. Positioning device as defined in claim 1, wherein the fixing elements and the at least one support element abut on one another with respective polished surfaces.

15. Positioning device as defined in claim 1, wherein at least two support elements are arranged between the fixing elements.

16. Positioning device as defined in claim 15, wherein the at least two support elements abut on one another with polished surfaces.

17. Positioning device as defined in claim 1, wherein each support element is provided with a contact element, a connection to an adjusting device being provided via said element.

18. Positioning device as defined in claim 17, wherein the contact element is a receiving means for an adjusting finger of the adjusting device.

19. Positioning device as defined in claim 1, wherein the contact element is accessible via an opening in one of the fixing elements.

20. Positioning device as defined in claim 1, wherein one of the optical components is arranged on one fixing element and the other on at least one support element.